CLAIMS

1. A method for routing one or more conductive traces between a plurality of electronic components of a multilayer signal routing device, the method comprising:

forming a first inter-component channel at a first routing layer of the multilayer signal routing device, the first inter-component channel extending between a first set of two or more electronic components of the plurality of electronic components and having a first orientation; and

forming a second inter-component channel at a second routing layer of the multilayer signal routing device, the second inter-component channel extending between a second set of two or more electronic components of the plurality of electronic components and having a second orientation different from the first orientation.

2. The method as in Claim 1, further comprising the step of routing at least one conductive trace between at least one electronic component of the first set of electronic components and at least one electronic component of the second set of electronic components via at least a portion of the first inter-component channel and at least a portion of the second inter-component channel.

3. The method as in Claim 2, further comprising the step of forming a conductive path between the first inter-component channel at the first routing layer and the second inter-component channel at the second routing layer.

4. The method as in Claim 3, wherein the conductive path includes a blind via or a microvia.

5. The method as in Claim 1, further comprising the step of forming a third inter-component channel at a routing layer of the multilayer signal routing device, the third inter-component channel extending between a third set of two or more electronic components of the plurality of electronic components and having a third orientation substantially parallel to the first orientation.

6. The method as in Claim 5, further comprising the step of routing at least one conductive trace between at least one electronic component of the first set of electronic components and at least one electronic component of the third set of electronic components via at least a portion of the first inter-component channel, at least a portion of the second inter-component channel and at least a portion of the third inter-component channel.

7. The method as in Claim 5, wherein the third inter-component channel is formed at the first routing layer of the multilayer signal routing device.

8. The method as in Claim 5, wherein the third inter-component channel is formed at a third routing layer of the multilayer signal routing device.

9. The method as in Claim 1, further comprising the step of forming one or more conductive paths between one or more of the electronic components and one or more of the first and second inter-component channels.

10. A method for routing one or more conductive traces between a plurality of electronic components of a multilayer signal routing device, the method comprising:

forming a first set of one or more inter-component channels at a first set of one or more routing layers of the multilayer signal routing device, wherein each inter-component channel of the first set of inter-component channels extends between at least two of the plurality of electronic components and has an orientation substantially parallel to a first orientation;

forming a second set of one or more inter-component channels at a second set of one or more routing layers of the

multilayer signal routing device, wherein each inter-component channel of the second set of inter-component channels extends between at least two of the plurality of electronic components and has an orientation substantially parallel to a second orientation different from the first orientation; and

routing at least one conductive trace from at least one electronic component to at least one other electronic component via at least one portion of one or more inter-component channels of the first and second sets of inter-component channels.

11. The method as in Claim 10, further comprising the step of forming one or more conductive paths between one or more inter-component channels of the first set of inter-component channels and one or more inter-component channels of the second set of inter-component channels.

12. The method as in Claim 10, wherein a number of routing layers of the first set of routing layers is based at least in part on a number of conductive traces at least partially routed in a direction substantially parallel to the first orientation and a number of inter-component channels formed at each routing layer of the first set of routing layers.

13. The method as in Claim 12, wherein a number of routing layers of the second set of routing layers is based at least in part on a number of conductive traces at least partially routed in a direction substantially parallel to the second orientation and a number of inter-component channels formed at each routing layer of the second set of routing layers.

14. The method of Claim 10, further comprising the steps of:

forming a third set of one or more inter-component channels at a third set of one or more routing layers of the multilayer signal routing device, wherein each inter-component channel of the third set of inter-component channels extends between at least two of the plurality of electronic components and has a third orientation different from the first and second orientations; and

routing at least one conductive trace from at least one electronic component to at least one other electronic component via at least one portion of one or more inter-component channels of the first, second and third sets of inter-component channels.

15. A multilayer signal routing device having a plurality of routing layers and comprising:

a plurality of electronic components;

a first set of one or more inter-component channels at a

first set of one or more routing layers of the multilayer signal routing device, wherein each inter-component channel of the first set of inter-component channels extends between at least two of the plurality of electronic components and has an orientation substantially parallel to a first orientation;

a second set of one or more inter-component channels at a second set of one or more routing layers of the multilayer signal routing device, wherein each inter-component channel of the second set of inter-component channels extends between at least two of the plurality of electronic components and has an orientation substantially parallel to a second orientation different from the first orientation; and

at least one conductive trace routed from at least one electronic component to at least one other electronic component via at least one portion of one or more inter-component channels of the first and second sets of inter-component channels.

16. The multilayer signal routing device as in Claim 15, further comprising one or more conductive paths formed between one or more inter-component channels of the first set of inter-component channels and one or more inter-component channels of the second set of inter-component channels.

17. The multilayer signal routing device as in Claim 15, wherein a number of routing layers of the first set of routing layers is based at least in part on a number of conductive traces at least partially routed in a direction substantially parallel to the first orientation and a number of inter-component channels formed at each routing layer of the first set of routing layers.

18. The multilayer signal routing device as in Claim 17, wherein a number of routing layers of the second set of routing layers is based at least in part on a number of conductive traces at least partially routed in a direction substantially parallel to the second orientation and a number of inter-component channels formed at each routing layer of the second set of routing layers.

19. The multilayer signal routing device of Claim 15, further comprising:

a third set of one or more inter-component channels at a third set of one or more routing layers of the multilayer signal routing device, wherein each inter-component channel of the third plurality of inter-component channels extends between at least two of the plurality of electronic components and has a third orientation different from the first and second orientations; and

at least one conductive trace routed from at least one electronic component to at least one other electronic component via at least one portion of one or more inter-component channels of the first, second and third sets of inter-component channels.